



**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2021-0689; Project Identifier AD-2020-01589-R; Amendment 39-21898; AD 2022-02-01]**

**RIN 2120-AA64**

**Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Sikorsky Aircraft Corporation Model S-92A helicopters. This AD was prompted by a cracked main rotor stationary swashplate assembly (swashplate assembly). This AD requires visually inspecting the swashplate assembly at specified intervals and depending on the results, removing the swashplate assembly from service. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). Operators may also log on to the Sikorsky 360 website at <https://www.sikorsky360.com>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also

available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0689.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0689; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Jared Hyman, Aerospace Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7799; email: 9-AVS-AIR-BACO-COS@faa.gov.

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Sikorsky Aircraft Corporation Model S-92A helicopters. The NPRM published in the *Federal Register* on August 23, 2021 (86 FR 47041). The NPRM was prompted by a notification of an in-service crack in a swashplate assembly inner ring. The crack, discovered during a routine inspection, extended between the uniball bore and near the right-hand trunnion to servo attach bolt hole. This condition, if not detected and corrected, could result in fretting wear on the shoulder that supports the clamp-up of the uniball outer race, failure of the swashplate assembly, and subsequent loss of control of the helicopter. In the NPRM, the FAA proposed to require, within 50 hours time-in-service (TIS), and thereafter at intervals not to exceed 50 hours TIS, visually inspecting the upper and lower surfaces of the swashplate assembly for a crack, nick, dent, and scratch. If there is a crack, nick, dent, or scratch that exceeds allowable limits, the NPRM proposed to require removing the

swashplate assembly from service before further flight. The FAA is issuing this AD to address the unsafe condition on these products.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from one commenter; Sikorsky Aircraft. Sikorsky Aircraft requested the FAA change the required inspections to address the unsafe condition. The following presents the comments received on the NPRM and the FAA's response to each comment.

### **Request for Changes to the Required Inspections**

Sikorsky Aircraft requested the FAA change the repetitive inspections proposed in the NPRM to more detailed repetitive inspections. Sikorsky Aircraft stated that the 50-hour repetitive inspections proposed in the NPRM are insufficient based on recent fatigue evaluations, which have introduced a new failure mode. Sikorsky Aircraft further stated that this new failure mode requires improved detection capability, which will be introduced in a forthcoming revision to ASB 92-62-009. Sikorsky Aircraft explained that the revised ASB will specify directed special inspections at 50-hour, 375-hour, and 1,500-hour intervals to visually detect a potential fatigue crack at specific regions of the swashplate and will include criteria for when to accomplish a fluorescent penetrant inspection (FPI) or eddy-current inspection.

The FAA appreciates that additional evaluations have been accomplished and revised service information is forthcoming; however, the FAA disagrees with changing the repetitive inspections proposed in this NPRM at this time. The FAA reviewed the drafted "Chapter 5 AMM Revision - Inspection of the Main Rotor Swashplate Assembly" submitted as an attachment to Sikorsky Aircraft's comment and determined that the preliminary data provided is not sufficient to substantiate Sikorsky Aircraft's request to change the repetitive inspections proposed in the NPRM. Therefore, it would be inappropriate for the FAA to delay issuance of this rule in order to allow Sikorsky Aircraft Corporation to release revised service information. Since an unsafe condition exists, the FAA must issue an AD; however, in light of the new information, the FAA has

changed this AD action to be an interim action and might consider further rulemaking if final action is later identified.

### **Conclusion**

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

### **Related Service Information under 1 CFR part 51**

The FAA reviewed Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019 (ASB). The ASB specifies a one-time visual inspection of the swashplate assembly to determine if there are any cracks. If cracks are found, the ASB specifies replacing the swashplate assembly. If there is any other damage such as nicks, dents, or scratches, the ASB specifies providing that damage information to Sikorsky Customer Service Engineering. The ASB also specifies returning the swashplate assembly, uniball bearing, trunnions, and all attachment hardware to Sikorsky for investigation if cracks are found.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Differences Between This AD and the Service Information**

The ASB specifies a one-time visual inspection of the swashplate assembly; this AD requires repetitive visual inspections of the swashplate assembly to determine if any crack, nick, dent, or scratch develops over time. This AD does not require returning parts to or contacting Sikorsky, while the ASB specifies performing those actions.

### **Interim Action**

The FAA considers this AD to be an interim action. If final action is later

identified, the FAA might consider further rulemaking then.

### **Costs of Compliance**

The FAA estimates that this AD affects 89 helicopters of U.S. Registry and that operators may incur the following costs in order to comply with this AD. Labor costs are estimated at \$85 per work-hour.

Visually inspecting a swashplate assembly takes about 0.5 work-hour, for an estimated cost of \$43 per helicopter and \$3,827 for the U.S. fleet, per inspection cycle.

Replacing the swashplate assembly, if required, takes about 16 work-hours and parts cost about \$389,720, for an estimated cost of \$391,080 per helicopter.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2022-02-01 Sikorsky Aircraft Corporation:** Amendment 39-21898; Docket No. FAA-2021-0689; Project Identifier AD-2020-01589-R.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Sikorsky Aircraft Corporation Model S-92A helicopters, certificated in any category, with a main rotor stationary swashplate assembly (swashplate assembly) part number (P/N) 92104-15011-042 or P/N 92104-15011-043 that has accumulated 1,600 or more total hours time-in-service, installed.

#### **(d) Subject**

Joint Aircraft System Component (JASC) Code 6230: Main Rotor Mast/Swashplate.

#### **(e) Unsafe Condition**

This AD was prompted by the discovery of a crack on the swashplate assembly inner ring. This condition, if not detected and corrected, could result in fretting wear on

the shoulder that supports the clamp-up of the uniball outer race, failure of the swashplate assembly, and subsequent loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) Within 50 hours time-in-service (TIS) after the effective date of this AD, and thereafter at intervals not to exceed 50 hours TIS, visually inspect the swashplate assembly for a crack, nick, dent, and scratch, by following the Accomplishment Instructions, Section 3, paragraph B. (except paragraphs B.(2)(a) through (c)) of Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019.

(2) If there is a crack, nick, dent, or scratch that exceeds the allowable limits, before further flight, remove the swashplate assembly from service.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Boston ACO, Compliance & Airworthiness Division, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

For more information about this AD, contact Jared Hyman, Aerospace Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7799; email: 9-AVS-AIR-BACO-COS@faa.gov.

**(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019.

(ii) [Reserved]

(3) For Sikorsky Aircraft Corporation service information identified in this AD, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). Operators may also log on to the Sikorsky 360 website at <https://www.sikorsky360.com>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on January 4, 2022.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service

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